Mobile Valve Training

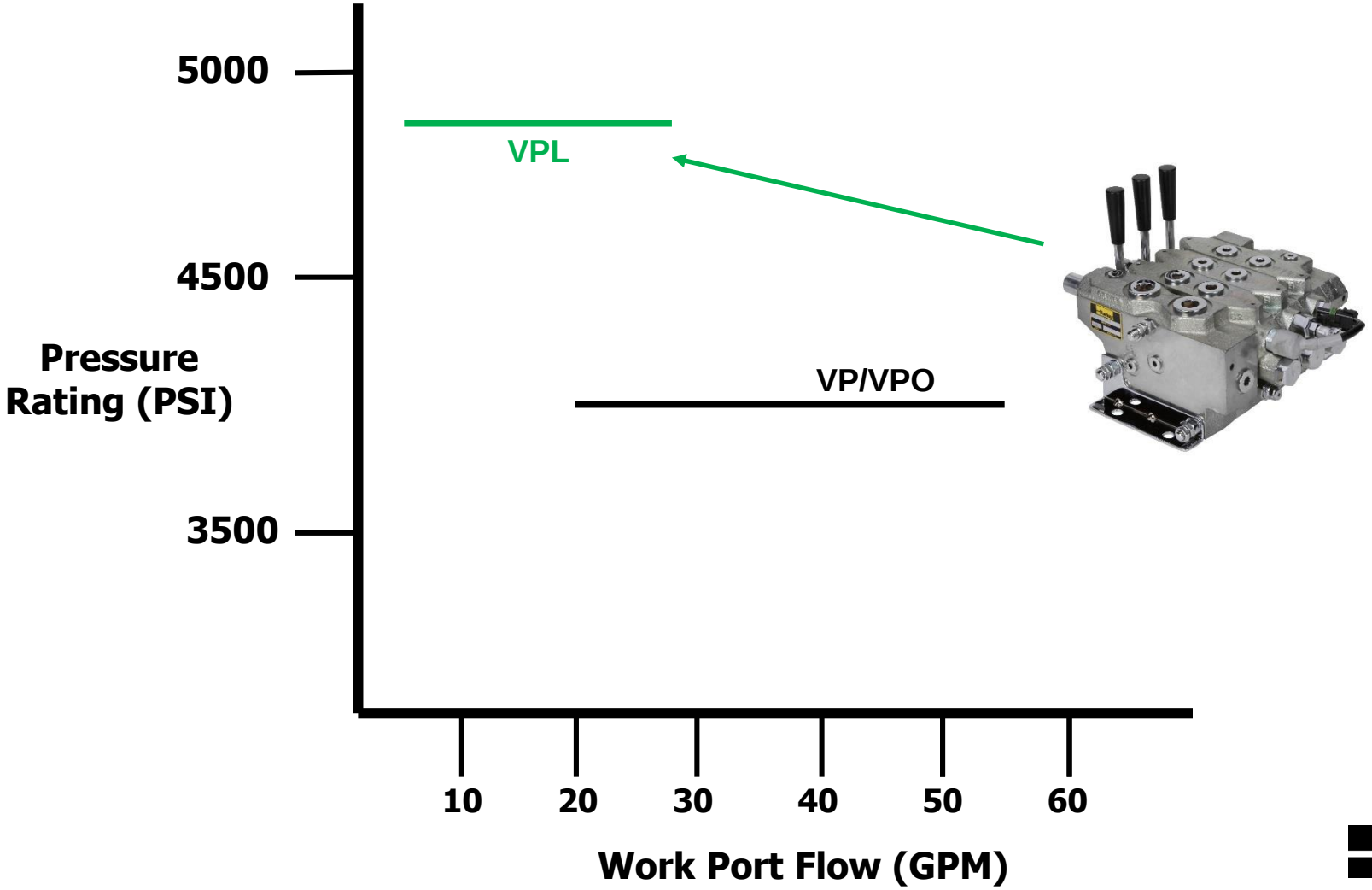
VPL Series Valve Review

Hydraulic Valve Division

ENGINEERING YOUR SUCCESS.

Pre-Compensated, Load-Sense Valves

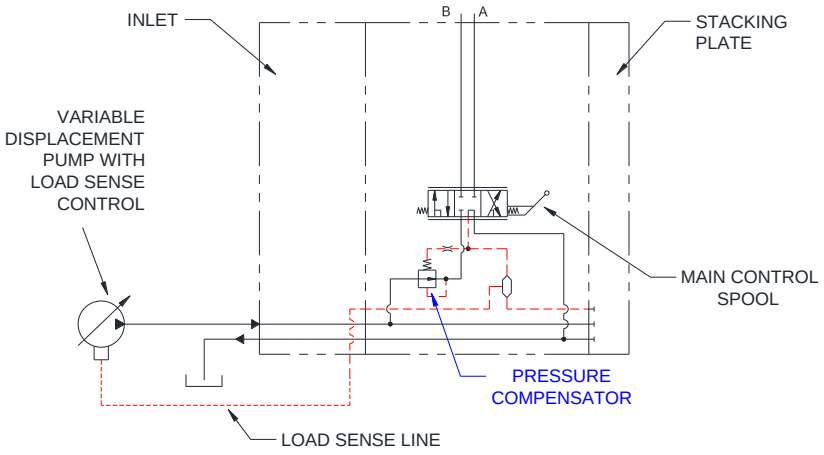
Pulsar Valves



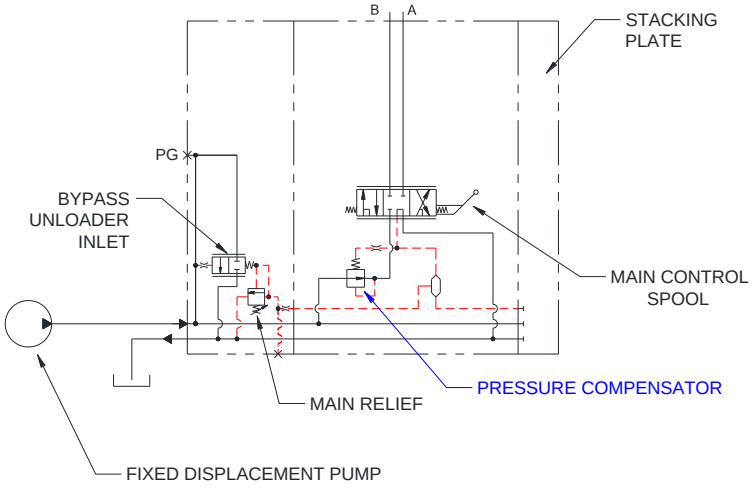
Load Sense Pressure Compensated (LSPC) Technology

Pre-compensated

VARIABLE PUMP

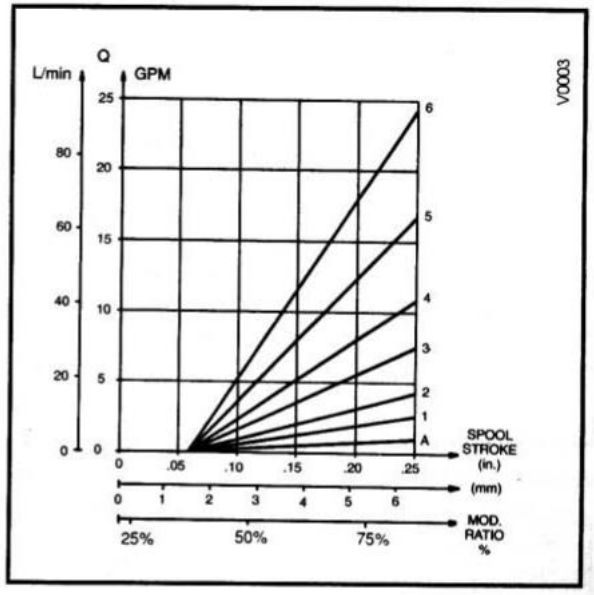


FIXED PUMP



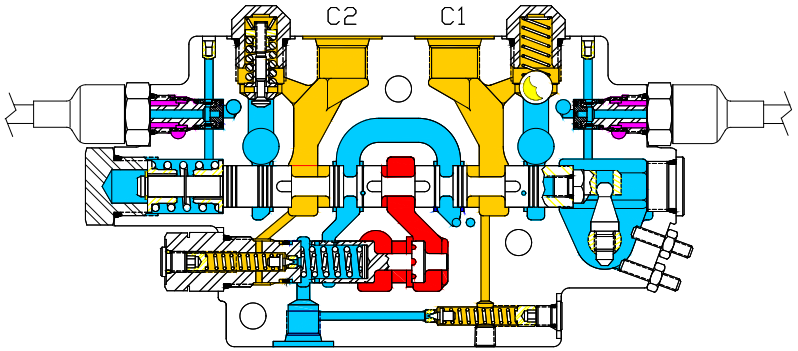
Pre-Comp LS Valves can adapted to any Pump in the market by simply modifying the Inlet Housing

Pressure-compensated flow gain characteristic



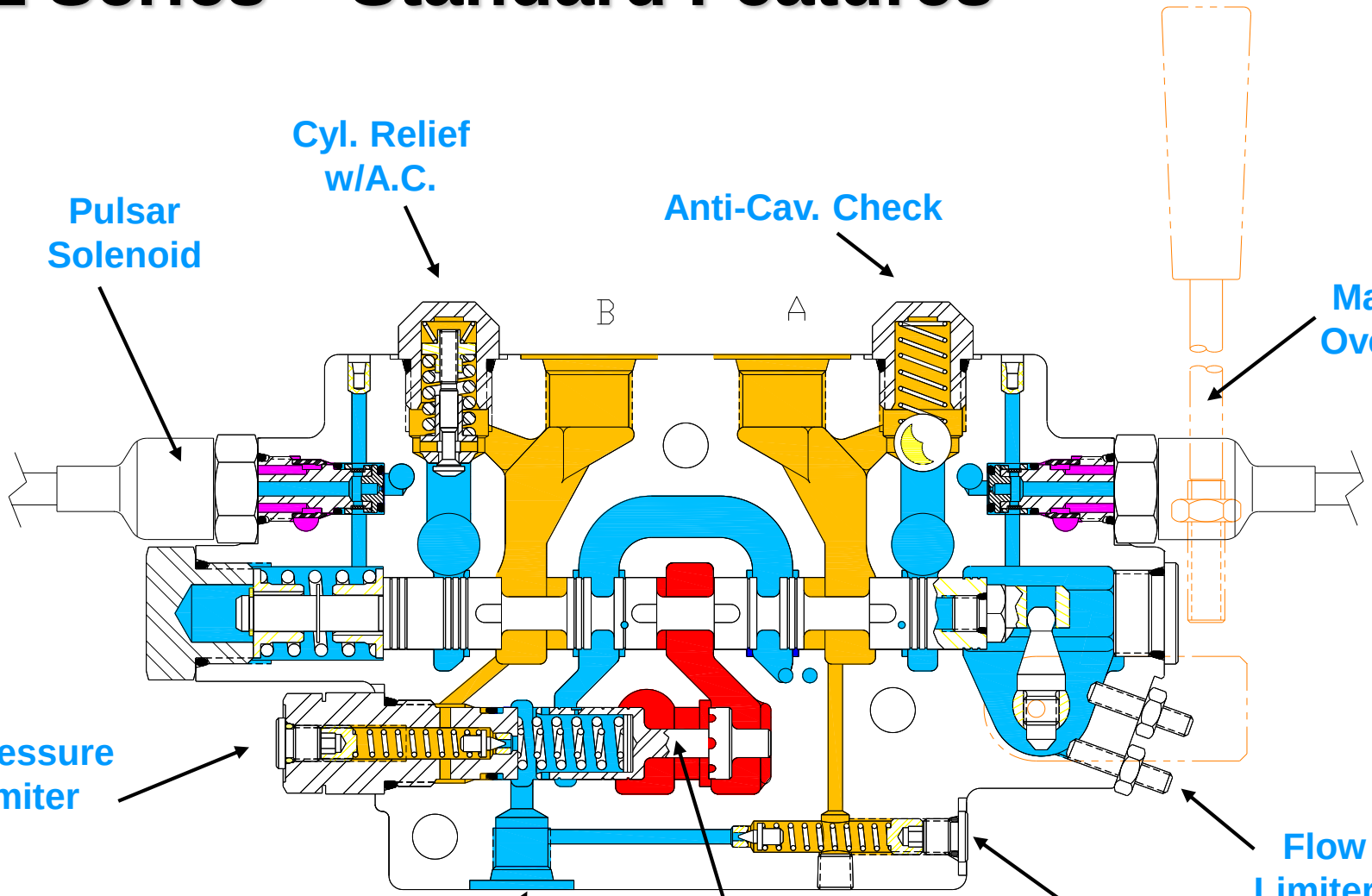
Pulsar LS Pre-Comp
Directional Control Valve

VPL Series Specifications



- **Nominal Flow:**
  - Inlet Port: 190 LPM (50 GPM)
  - Work Port: 114 LPM (30 GPM)
- **Operating Pressure:**
  - Pressure Supply Port: 320 BAR (4650 PSI)
  - Work Port: 400 BAR (5800 PSI)
- **Spool Flow Ratings:** 5, 10, 15, 25, 40, 65, 90, & 115 LPM (1.3, 2.5, 4, 7, 11, 17, 24, & 30 GPM)
- **Porting** – available in SAE & BSPP
  - Pressure & Tank: BSPP G-3/4 (SAE-12)
  - Work Ports: BSPP G-1/2 (SAE-8, SAE-10)
- **Spool/Cylinder Port Configuration**
  - Closed, Vented Open, Open Cylinder Motor
- **Cylinder Work Leakage: 9-17 cc/min @ 1000 PSI**
- **Maximum # of Work Sections:** 14
- **Operators:** Electric, Hydraulic, Manual
- **Work Section width:** 1.50”

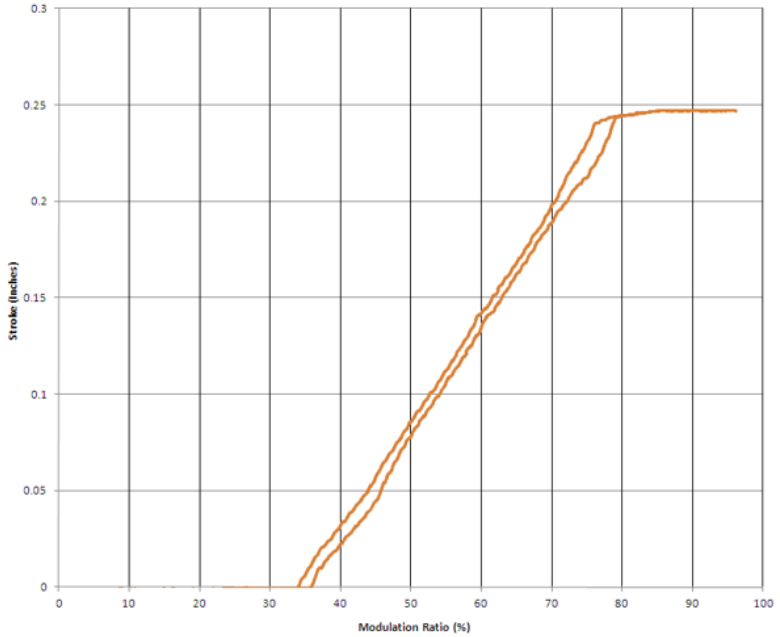
VPL Series – Standard Features



VPL Design Benefits -
Pressure Feedback Pulsar Solenoid

Provides precise control with reduced operator fatigue caused by over controlling the machine

- Pressure Feedback Solenoids reduce static friction resulting in superior control with very low hysteresis
- Patented Dual Control Input
  - Current Control
  - PWM Control

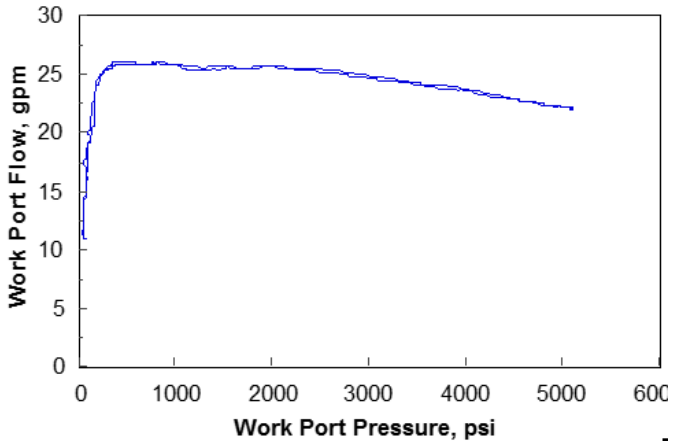


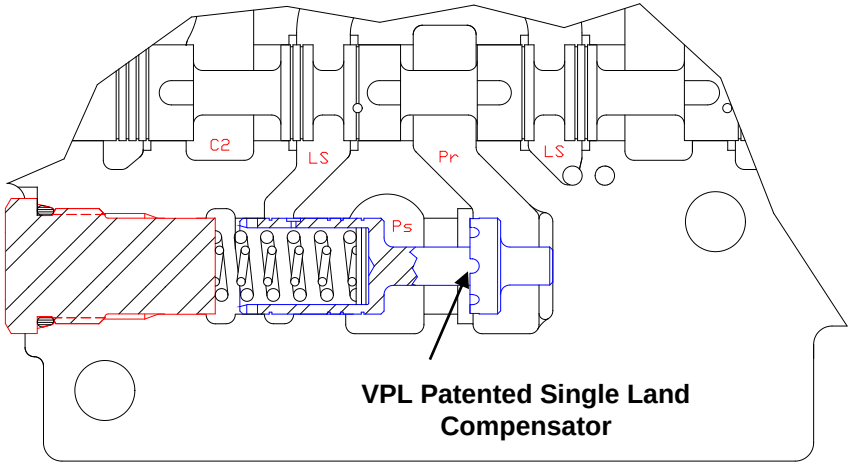
VPL Design Benefits –

Individual Pressure Compensation

Provides outstanding control while multi-functioning your machine resulting in less operator input

- Individual Pressure Compensation in each function will maintain constant speeds regardless of different load conditions that are being seen in the machine



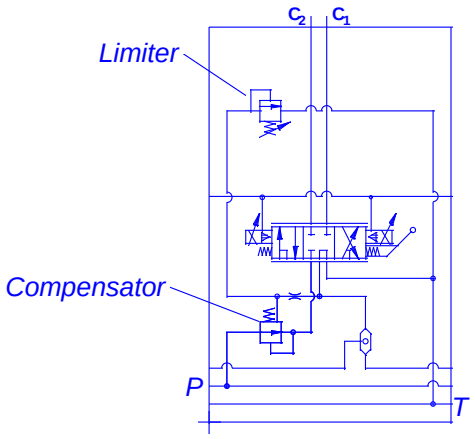


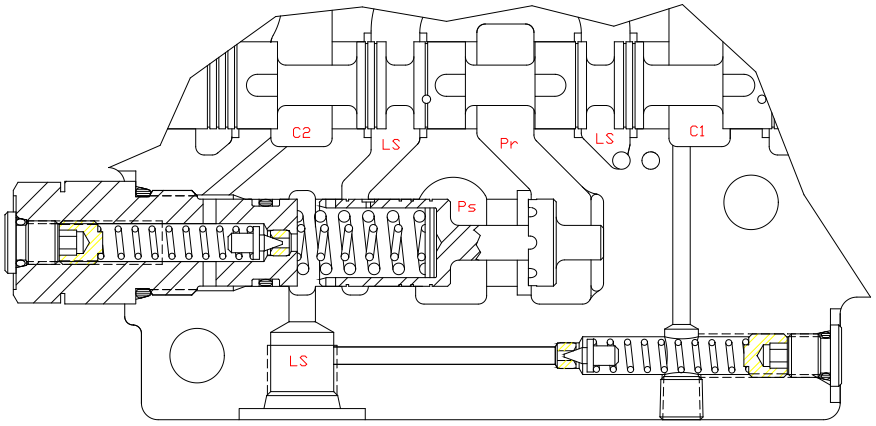
VPL Design Benefits –

Pressure Limiters

Reduce Operating Cost by providing an energy efficient System

- Pressure Limiters can be incorporated into the section to limit maximum pressure to a lower setting than the main system pressure.
- This device pilot operates the Individual Pressure Compensator by shutting off flow to the main spool.
- This results in less heat/ horsepower in the circuit as compared to using a work port relief which would dump full flow to Tank.



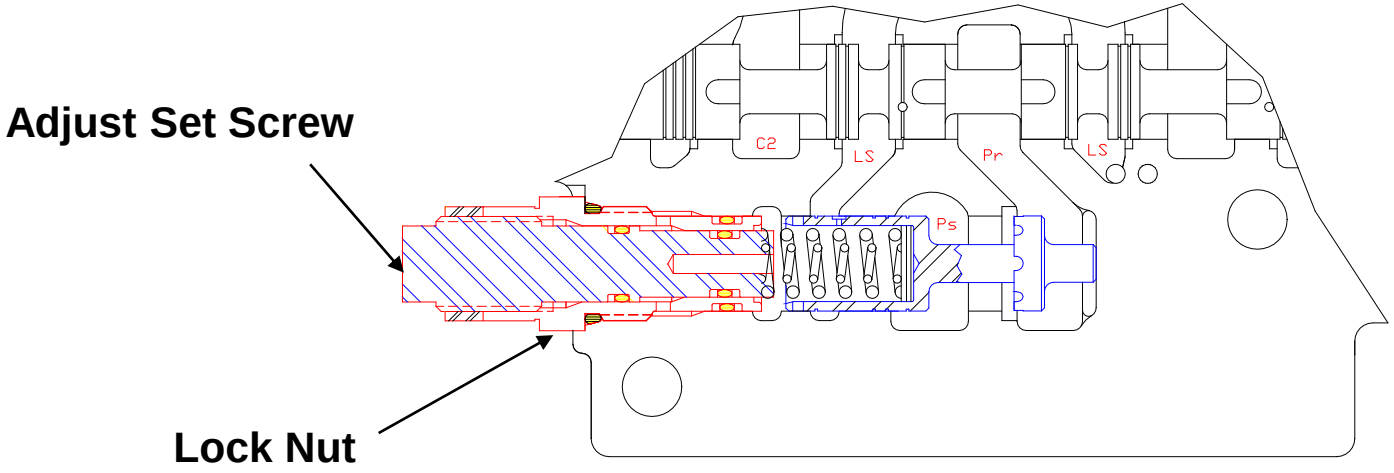


VPL Design Benefits –

Adjustable Pressure Compensator

Maximize proportional control to the actuator by providing precise flow from the valve

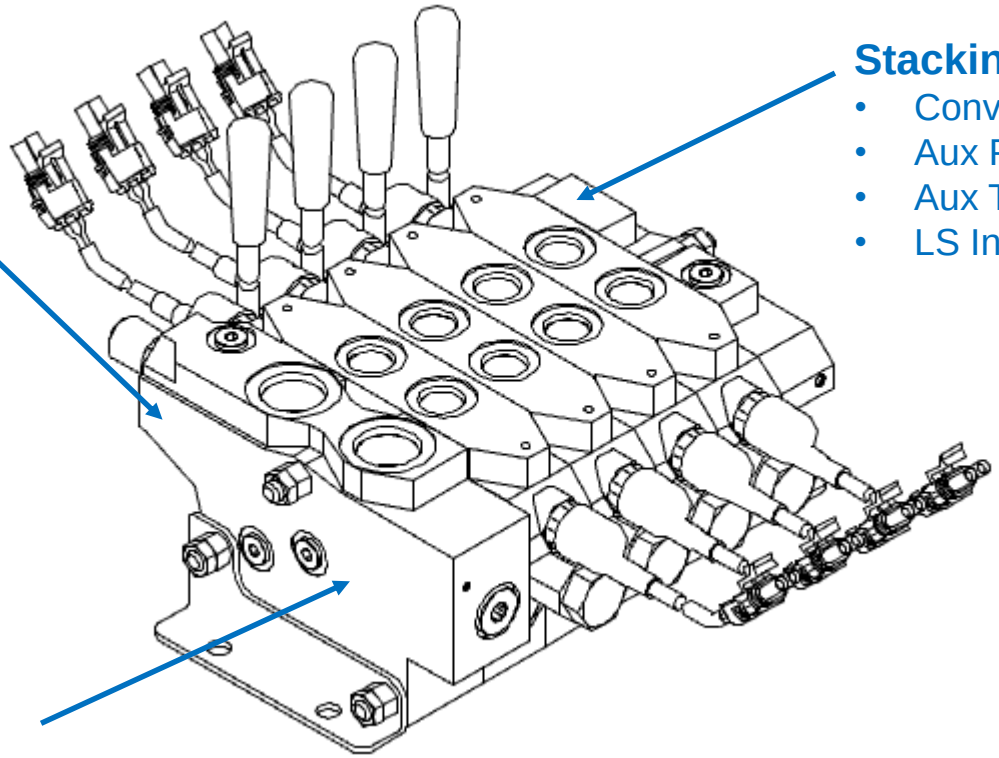
- Adjustable Pressure Compensator regulates the pressure drop across the main spool to provide exact flow needed to maintain full spool travel.
- Competitors are required to design custom spools or use flow stops to limit spool travel to achieve desire flow.



VPL Inlet/Outlet Configuration Options

Inlet Types

- Bypass Unloader (VBL)
- LS w/ Relief (VYL)
- LS w/o Relief (VLL)
- PC w/ Relief (VRL)
- PC w/o Relief (VXL)
- EH Blocking
- Hyd Blocking
- Reducing (VEL)



Stacking Plate

- Convertible Pilot Drain
- Aux Pressure Port
- Aux Tank Port
- LS In Shuttle Port

Options

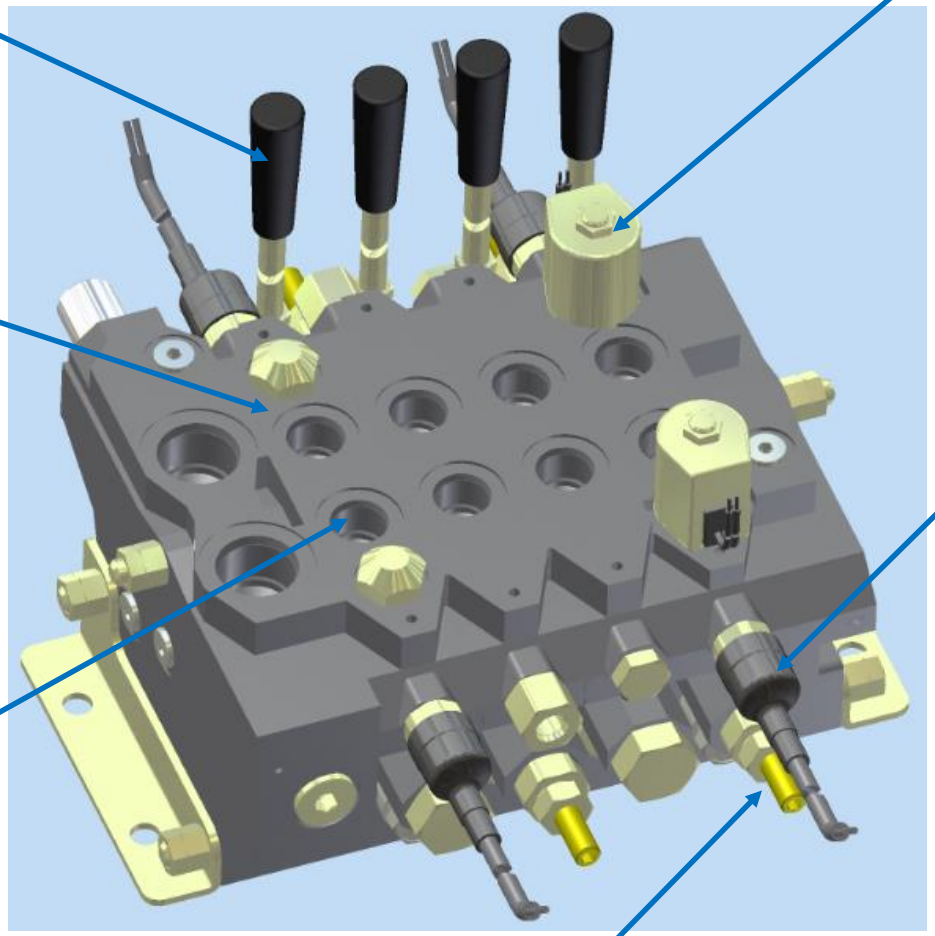
- Main Relief
- Press. Reducing
- Power Beyond
- LS Port Out
- Ps Gauge Port
- Low Pressure Unloader
- EH LS dump
- Interlock Plates

VPL Configuration Options

Manual Handles
- 6” Handle
- 9” Handle
- Marine Option

Main Spools
- Cylinder
- Motor
- Restricted
- Single Acting
- Double Acting
- Un-symmetrical Flow
- Low Leak
- Pressure Control

Port Sizes
- SAE #8
- SAE #10
- BSPP G-1/2



Flow Limiters
- Standard
- Heavy Duty

Port Accessories
- Work Port Reliefs w/ A.C.
- Anti-cavitation Checks
- Electric Floats
- Defeat Plugs

Operators
- EH Proportional
- EH On/Off
- Hydraulic Remote
- Hydraulic w/ Purge
- Manual Control
- 3 Position Detent
- Infinite Friction Lock

Voltage/ Approvals
- 12 vdc
- 24 vdc
- MSHA XP
- ATEX XP
- CSA I/S
- IECEx XP

Market & Application Expertise

- Construction
- Mining
- Oil & Gas
- Military
- Refuse
- Distribution